

UNIQUE CHALLENGES OF EXPLORING MERCURY FROM AN ORBITER

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Following the 1974-75 Mariner 10 flybys of Mercury, a number of science working groups in the United States and abroad articulated the desirability of returning to Mercury and performing scientific investigations from Mercury orbiter spacecraft. Such orbiter missions pose unique challenges related to the high propulsion energies needed to get a spacecraft to Mercury and to orbit the planet, and to the spacecraft design which is driven by a severe thermal anti radiation environment, which must be endured by a spacecraft in orbit around Mercury. This paper will review the unique challenges associated with Mercury orbiter missions.

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